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TEN NEW AMERICAN SPECIES AND VARIETIES OF ROSA¹

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It is unnecessary to reiterate the fact of the great variability of the species of *Rosa*. We shall eventually, for the sake of usability, probably be forced to recognize a relatively small number of collective species, which will be characterized both morphologically and cytologically; within these groups there will be lesser elements most of which will be of the nature of geographical or local races or varieties and stable hybrids, important for the most part in regional floras.

In a careful analysis of characteristics used to distinguish species Boulenger² has shown how greatly these characters vary among individuals in European *Rosa* species. Similarly, one can take any of the "key characters" used to determine North American *Rosa* species and find undoubted cases where each characteristic breaks down when taken by itself. After growing a large number of individuals of many of our native wild roses, and studying them intensively for several seasons, I find that many of the specific characteristics act as though they were independent Mendelian units in that they appear combined in every possible way within each species group. In species having well-developed paired infrastipular prickles, individuals can be found with curved or straight prickles and also unarmed. Pubescence and glands on the foliage vary on different parts of the same plant and also seasonally, as well as among progeny grown from seed of a single plant.

¹ Papers from the Department of Botany of the University of Michigan, no. 274.

² Boulenger, G. A. *Roses d'Europe*, 1924-1925.

It is also true, as Crépin¹ pointed out, that many species are represented by both a tall and a dwarf form; to this I would add that several North American species also have weak-stemmed semi-procumbent forms. These habit forms are very conspicuous in the field but decidedly less so in the herbarium.

In every region on this continent where two or more related species of *Rosa* grow, there are to be found forms which seem to be due to hybridization between the common local species. Often a series of more or less stable forms intermediate between two local species occurs throughout a definite range. In the Great Lakes region there is such a series of forms apparently intermediate between *Rosa blanda* Ait. and *Rosa palustris* Marsh.; some of these have already been described: *R. blanda nuda* Schuette, *R. blanda subgeminata* Schuette, *Rosa palustris* var. **aculeata** (Schuette) comb. nov. (*R. carolina aculeata* Schuette, Proc. Am. Assn. Adv. Sci. **46**: 279, 1898), *Rosa palustris* var. **sepalorelevata** (Schuette) comb. nov. (*R. carolina sepalorelevata* Schuette, l. c. **46**: 279, 1898), *R. palustriformis* Rydberg; two additional forms belonging to this group have been discovered. These forms are all characterized by a flowering period of about two weeks occurring between the periods of *R. blanda* and *R. palustris*. In western Indiana, Illinois and the eastern parts of Missouri and Iowa are many forms which seem to be intermediate between *Rosa carolina* L. and *R. suffulta* Greene, giving the variable group of *R. rudiuscula* Greene as well as such types as *R. Bushii* Rydb., *R. polyanthema* Lunell, and *R. conjuncta* Rydb. As the writer² has stated before it seems best to treat intermediate forms under the species they most nearly resemble rather than to disregard them under the category of unnamed crosses. Any interspecific cross in *Rosa* is bound to yield a number of different forms, and our knowledge of these is at present negligible.

The following new species and varieties are very distinctive in the field and most of them were picked out by experienced collectors and students of the genus *Rosa* as being unusual. In each case I have pointed out the distinctive characteristics, but unfortunately most of these characteristics are in themselves variable and individually unreliable in a large series of specimens. But the sum of the characteristics of each plant gives an undoubtedly distinct form.

¹ Crépin, F. *Rosae americanae*. Bot. Gaz. **22**: 1-34. 1896.

² Erlanson, E. W. The wild roses of the Mackinac Region of Michigan. Papers Mich. Acad. **5**: 77-94. 1925.

All the new forms, except *Rosa Housei*, are in cultivation at the Botanical Garden of the University of Michigan and have been grown three or more years. Cytological studies have been made on these forms and it has been found that some of them could not be fitted into any existing species. I am therefore forced to describe them as new. Some have been found to agree in many respects with previously described species, and, although they are very distinctive in the field, these have been described as varieties in the hope that it will prevent unnecessary confusion.

Measurements of leaflets and counts of teeth have all been made on terminal leaflets.

It has been found that the number of stamens, counted in the fresh flower, is a good accessory characteristic in distinguishing some large species groups. Of the species related to the forms here described, *Rosa blanda* has the fewest stamens, 70–120 being characteristic; *R. suffulta* usually has from 90–140; *R. carolina* about the same or a few more (100–150); *R. palustris* has usually 170–200, more than any other species in the Carolinae-Cinnamomeae Section in North America.

When taken in relation to other native species growing in the same latitude and habitat each species group has a characteristic flowering period. The species of some groups have a limited flowering period of, usually, two to three weeks duration; in other groups flowers continue to be produced on new shoots until frost. This seems to be a reliable characteristic.

ROSA michiganensis, sp. nov. Caules 7–15 dm. alti, surde fusci, aculeos rectos vel flexos basi dilatatos uberrime gerens. Foliola 5–9, plerumque 7, obovata, apice acuta, basi cuneata, parviserrata, serrulis utrinque 7–28, superne glabra, 1–5 cm. longa, subtus minute pubescentia. Flores solitarii vel corymbosi. Hypanthium glabrum, maturitate pomiforme, 1–1.5 cm. diametro. Sepala externe valde glanduloso-hispida, interne et marginaliter lanata, insigne pinnatifida, sub anthesin erecta vel divergentia, persistentia; apicibus longis. Achaenia basi et parietibus affixa.

A vigorous species spreading by underground stems which send up stout leafy turions 7–15 dm. high; the next season these bear flowers terminally on lateral branches 5–30 cm. long. The stems are dull brown and copiously armed with straight or deflexed, broad-based, somewhat flattened prickles. The branches bear a few small prickles which are occasionally paired beneath the stipules. Stipules 12–15 mm. long, 1–3 mm. wide, glabrous above, puberulent beneath, often red-tinged, the margins glandular-dentate, with large spreading

semi-lunate acute auricles which are sometimes much dilated, to 6 mm. in width. Petiole and rhachis short-tomentose, those on the turions with a few scattered aciculi or hispid-glandular hairs. Leaflets 5-7, occasionally 8 or 9, regularly obovate, acute at the apex, cuneate at the base, 1-5 cm. long by 7-29 mm. wide, very rarely twice as long as broad, dull cerise green (Ridgeway), above glabrous or sparingly appressed-pubescent, paler and densely short-pubescent beneath: teeth simple to bicuspid, acute, ascending, 7-28 on each side, average number 16.6. Floral bracts foliaceous or ovate, pubescent. Inflorescence 1-7-flowered, usually 2 or 3 flowers only. Pedicels glabrous, stout, 8-20 mm. long, usually about one cm. long. Hypanthium smooth, depressed-globose to subglobose, 10-15 mm. in diameter in fruit; orifice 2 mm. in diameter, the disc nearly 1 mm. wide. Sepals lance-ovate, caudate-appendiculate, tomentose on the margins and within, conspicuously glandular-hispid on the backs, entire or with 1-4 slender lateral appendages, after anthesis spreading or reflexed, persistent; the blades 10-12 mm. long by 3-4 mm. wide, the appendage 5-10 mm. long. Petals 2-2.5 cm. long, pale purplish-vinaceous with a darker spot of amaranth pink at the base. Stamens 120-150. Stigmatic head in anthesis purplish-vinaceous (as, frequently, in *R. palustris*). Achenes on the bottom and lower part of the walls of the hypanthium.—MICHIGAN: Sandy shore of Douglas Lake, Cheboygan Co., Aug. 20, 1924, *C. O. and E. W. Erlanson* no. 637, Bot. Gard. Univ. Mich. no. 5890 (TYPE in Herb. and (living) Bot. Gard. Univ. Mich.).

This rose is very distinctive and flowers ten days later than *R. blanda* from which it is chiefly distinguished by the stout prickles, coarse strict habit, fine serrations of the leaflets and the spreading sepals and depressed large fruit.

ROSA Schuetteana sp. nov. Caules 3-6 dm. alti, aculeis rectis tenuibus fragilibus infra-stipularibus armati. Stipulae angustae, glabrae. Foliola 5-7, anguste obovata, apice basique acuta, 15-50 mm. longa, glabra vel subtus ad venas sparsim pilosa, parviserrata, serrulis utrinque 12-26. Flores solitarii vel corymbosi, pauci. Hypanthium sparsim glanduloso-hispidum, maturitate pomiforme 10-15 mm. diametro. Sepala externe glanduloso-hispida, sub anthesin divergentia vel reflexa, tarde caduca. Stamina 150-180. Achaenia basilaria et parietalia.

Habit that of a slender *R. palustris*. Stem 3-6 dm. high, bristly, at the base with paired terete infrastipular prickles (only on the branches) 2-5 mm. long, straight or slightly deflexed. Stipules narrow, glabrous except on the margins which are entire or sparsely glandular-dentate. Petiole and rhachis puberulent, eglandular and unarmed or rarely with a few setae. Leaflets 5-7, elliptic to obovate, usually acute at both ends, 15-50 mm. long, usually about half as broad as long, glabrous except on the veins beneath. Serrations

simple, fine and acute, 12–26 on each side of leaflet, average number 19. Inflorescence 1–5-flowered, more than half the flowers being solitary. Flowering branches very slender 10–15 cm. long. Petals 20–23 mm. long, varying from amaranth to pale amaranth-pink. Pedicels slender, smooth and glabrous, 10–15 mm. long. Hypanthium sparingly glandular-hispid, depressed-globose, 10–15 mm. in diameter by 7–12 mm. high; orifice 1.5 mm. in diameter; disc .75 mm. wide. Sepals lanceolate, caudate-appendiculate, 15–20 mm. long, glandular-hispid on the back, sometimes with 1–4 small lateral appendages, after anthesis spreading to erect, tardily deciduous from the ripe fruit. Stamens 150–180, filaments bright yellow. Achenes about 40, on the bottom and lower part of the walls of the hypanthium, 3.4–4 mm. long.—WISCONSIN: shore of Winebago Lake, Neenah, June 16, 1890, *J. H. Schuette*, no. 55 (Field Museum no. 379575). MICHIGAN: moist wooded shore of Douglas Lake, August 18, 1924, *C. O. & E. W. Erlanson* no. 629 (TYPE in Herb. and (living) Bot. Gard. Univ. Mich. no. 5891); Douglas Lake, July 5, 1919, *Mrs. C. C. Deam* no. 28631 (as *R. carolina*). NEW YORK: banks of Hudson River, near "The Glen," Warren Co., July 18, 1927, *H. D. House*, no. 15068.

This species was reported as *R. carolina* L. in 1925 when it was collected near the end of the flowering period. Schuette called his specimen *R. humilis* × *carolina* (i. e. *R. carolina* × *palustris*). It may have been derived from *R. carolina* even though that species has not been found in the Douglas Lake region,—the slender, straight paired prickles, relatively coarse teeth and early flowering period recall that species. In habit it resembles a slender *R. palustris* and since transplantation to Ann Arbor the serrations of the leaflets have become somewhat finer. It is distinguished from *R. palustris* by the straight slender prickles, the small inflorescence, larger fruits; it flowers from ten days to two weeks earlier than that species and is through flowering in about a fortnight. It differs from *R. carolina* in habit, in the finer and more numerous serrations of the leaflets, more numerous stamens and in the important fact that it flowers only on wood of the second season or older, never on unbranched turions, and that it does not continue to produce flowers on new shoots after the main flowering is over.

ROSA BLANDA Ait. var. **Hermannii** n. var. Caules 2–6 dm. alti, rufescentes. Rami graciles inermes vel raro aculeati, aculeis rectis, tenuibus infra-stipularibus. Foliola elliptica vel oblanceolata, parviserrata, serrulis utrinque 12–26. Sepala lanceolata, caudato-appendiculata, insigne pinnatifida, 2–2.5 cm. longa, externe valde glanduloso-hispida, sub anthesin erecta, persistentia. Stamina 110–120.

Stems 2–6 dm. high, red-brown, unarmed except for a few bristles at the base and occasional pairs of weak infrastipular prickles on the branches. Leaflets 5–7, finely puberulent beneath, dull and sometimes with scattered appressed pubescence above, lance-elliptic to oblanceolate or rarely elliptic, more than twice as long as wide, 15–50 mm. long. Serrations rather fine, simple to bicuspid, 12–26 on each side of the leaflet (average number 18). Flowering branches slender and flexuous, 10–30 cm. long. Inflorescence a 2- to 8-flowered corymb, or flowers solitary. Pedicels 1–3 cm. long, slender and glabrous. Hypanthium subglobose or with a slight neck, 8–12 mm. in diameter in fruit, smooth and glabrous; orifice 2 mm. in diameter; disc .75 mm. across. Sepals lanceolate, caudate-attenuate, 20–25 mm. long, some with foliaceous tips, blades 10–12 mm. long and 2.5–3 mm. wide, tips 10–15 mm. long, conspicuously glandular-hispid, often with two or three pinnae; after anthesis erect or spreading, persistent though brittle. Petals 2 cm. long. Stamens 110–120, inner ones with very short filaments as in *R. palustris*. Achenes attached to the bottom and lower part of the walls of the hypanthium, many being abortive in fruit. Flowering period beginning a little later than in *R. blanda* and continuing about four weeks.—MICHIGAN: dry sandy shore of Bear Lake, 7 miles from Laurium, Houghton Co., October, 1922, *F. J. Hermann* (TYPE in Herb. and (living) Bot. Gard. Univ. Mich. no. 2686); Sagitaw Farm, McMillan, Luce Co., October, 1922, *W. Brotherton Jr.* (Bot. Gard. Univ. Mich. no. 2668).

ROSA SUFFULTA Greene var. **valida** n. var. Frutex densus 3–9 dm. altus. Caules setosi, setis tenuibus fragilibus armati. Stipulae amplae dilatatae, majores 4 mm. latae, integrae vel glanduloso-serrulatae, pubescentes. Folia conferta. Foliola 9–11 raro 5 vel 7, ovata vel obovata, vel nonnulla fere orbicularia, obtusa, 10–35 mm. longa, 8–20 mm. lata, utrinque breviter pubescentia, supra mediam argute simpliciter serrata, serrulis utrinque 7–20. Flores corymbosi raro solitarii, in ramis floriferis lateralibus 10–30 cm. longis.

A bushy winter-hardy plant 3–9 dm. high. Stems reddish, densely bristly with weak bristles 2–3 mm. long, branches bristly or nearly unarmed. Stipules adnate, densely pubescent, 15–28 mm. long, often very broad, 2–4 mm. wide, entire or with glandular serrations near the tip. Petiole and rhachis densely pubescent, occasionally with a few glands or fine setae. Leaflets usually 9–11, rarely 5 or 7, broadly ovate or obovate, obtuse at one or both ends, 10–35 mm. long by 8–20 mm. wide, for the most part about 20 mm. long, pale green and appressed-pubescent on both surfaces. Serrations simple, regular, 7 to 20 on each side, average number 11 (the New York material shows 6 to 14 on each side with the average number of 10), lower third of the leaf-margin entire. Inflorescence usually corymbose, typically 1–7-flowered, on vigorous lateral branches 10 to 30 cm. long, or terminally on turions 30 to 50 cm. tall. Flowering time the same as the type of the species, usually over in a month. Pedicels

1–2 cm. long, smooth. Hypanthium subglobose to slightly ellipsoid, 10–13 mm. in diameter in fruit, smooth and glabrous; orifice 3 mm. in diameter; the disc 1 mm. wide. Sepals 1–3 cm. long including the tips, scarcely tapering at the base, entire or with an occasional pinna, glandular-hispid on the back, spreading on the green hips, later erect and persistent. Petals 25–27 mm. long, rosaline pink with darker mottlings. Stamens 140–150. Achenes inserted on the bottom and lower sides of the hypanthium, many of them aborting.—MISSOURI: Rockport, Atchison Co., November 1, 1923, A. & P. Hamilton (TYPE in Herb. and (living) Bot. Gard. Univ. Mich., no. 4459). NEW YORK: near Minerva, Essex Co., August 5, 1927, H. D. House no. 15169 and August 9, 1927, H. D. House, no. 15247 (in Herb. N. Y. State Mus.).

This variety differs from *R. suffulta* chiefly in the tall bushy upright stems which do not die back to any extent. The plant is very leafy and the broad stipules are conspicuous.

ROSA ratonensis sp. nov. Frutex; ramis robustis, erectis fusciviridibus, sparse setosis, 0.5–1 m. altis; ramulis setosis vel inermibus. Stipulae adnatae glabrae vel sparse puberulentae, subtus paulum glanduliferae, integrae vel glandulo-serratae; auriculis latis liberis amplis semilunatis. Foliola 9–11, raro 7, elliptica vel obovata, acuta, 1–3 cm. longa, utrinque glabra vel subtus in nervo medio sparsim pubescentia, argute simpliciter vel dupliciter serrata, serrulis utrinque 8–18. Flores corymbosi raro solitarii; ramis floriferis lateralibus robustis 10–30 cm. longis. Hypanthium glabrum, globosum, maturitate 10–15 mm. diametro. Sepala caudato-appendiculata, raro pinnatifida, 2 cm. longa, externe valde glanduloso-hispida, sub anthesin erecta, persistentia. Stamina 90–120. Achaenia basilaria et parietalia.

A stout bush 0.5–1 m. tall, stems erect, greenish brown, armed with weak scattered bristles, branches very leafy, sometimes unarmed. Stipules glabrous or sparingly puberulent and glandular-granuliferous on the back, entire and ciliate or glandular-dentate, auricles broad, semi-lunate, sometimes 6 mm. long. Petiole and rhachis glabrous or sparingly puberulent and glandular. Leaflets 9–11, rarely 7, elliptic to obovate, some nearly orbicular, acute at both ends or rounded at the apex, 1–3 cm. long, usually slightly more than half as wide as long, yellowish green, glabrous on both sides, or slightly pubescent on the mid-vein beneath, glaucous beneath; coarsely serrate, the teeth acute, simple or bidentate, 8–18 on each side, average number 12. Corymbs 1–9-flowered, generally terminal, on vigorous lateral branches 10–30 cm. long and on the season's turions. Pedicels 1–3 cm. long, glabrous and smooth. Hypanthium glabrous and smooth, globose, 10–15 mm. in diameter in fruit, sometimes with a slight neck; orifice 2 mm. in diameter; disc 1 mm. wide. Sepals lanceolate, caudate-appendiculate, 2 cm. long or a little less, 3.5–4 mm. wide,

sometimes with 1-4 small pinnae, densely glandular-hispid on the back, persistent and erect in fruit. Petals obovate, 20-33 mm. long, in the type plant nearly white and mottled with pink especially on the back, giving pink buds. First flowers large, 6.5 cm. across, later ones only 4.5 cm. across. Stamens 90-120. Achenes basi-parietal.—NEW MEXICO: in sandy clay, top of Raton Pass, Colfax Co., alt. 8,800 ft., June 17, 1925, *C. O. Erlanson* no. 1062 (TYPE in Herb. and (living) Bot. Gard. Univ. Mich., no. 8114).

This plant was at first taken to be the true *R. arkansana* Porter, Raton Mountains being one of the stations given by Porter in his original description, but it is evident that he had the low simple-stemmed form which, as Miss Ensign¹ showed, is difficult to distinguish from the pubescent *R. suffulta* in a series. Although *R. ratonensis* is chiefly distinguished from *R. arkansana* by its tall bushy habit, and by the fact that it does not die back in winter, it might easily be mistaken for a vigorous *R. Woodsii* Lindl. It can be distinguished unfailingly from that species by its ability to flower on the season's turions and by its later flowering time. The leaflets are more numerous than in *R. Woodsii* and the sepals are broader, but that species is sometimes very bristly and in a single culture I have plants that have flowers solitary to three or four together, and others that bear large corymbs. *R. ratonensis* may bear the same relationship to *R. arkansana* that *R. suffulta* var. *valida* bears to *R. suffulta*, but since the specific distinction between *R. arkansana* and *R. suffulta* does not rest on dependable characteristics I am at present inclined to keep it as a separate species.

ROSA relictæ sp. nov. Caudex subterraneus ramos tenues, debiles foliiferos 5-30 cm. altos virides setosos vel inermes emittens; ramulis inermibus vel raro aculeatis, aculeis minutis rectis, tenuibus infra-stipularibus. Stipulae angustae, glabrae vel subtus pubescentes, integrae ciliatae. Foliola 7-9, raro 5, elliptica vel ovata vel obovata, obtusa, utrinque sparsim breviter pubescentia, 14-31 mm. longa, 7-16 mm. lata, acuta, simpliciter vel dupliciter serrata, serrulis utrinque 8-21. Flores solitarii vel corymbosi, terminales. Pedicelli glabri. Hypanthium glabrum subglobosum, maturitate 8-10 mm. diametro. Sepala lanceolata, 2 cm. longa, extus pilosa plus minusve glanduloso-hispida, sub anthesin reflexa persistentia vel tarde carduca. Stamina 110-120. Achaenia basilaria et parietalia.

Spreading freely by underground stems, sending up small slender aerial branches 5-30 cm. high. Stems slender, greenish, armed with short fine bristles, or nearly naked. Branches chiefly unarmed, or with an occasional pair of small slender infrastipular prickles.

¹ Ensign, E. *Rosa pratincola* Greene, Proc. Iowa Acad. Sci. 26: 303-310, 1919.

Stipules adnate, 1–2 cm. long, narrow, 1–2 mm. wide (rarely 3 mm. wide), auricles small, triangular, glabrous or pubescent on the back, the margins usually ciliate and entire, occasionally glandular-serrate. Petiole and rhachis glabrous to puberulent, often glandular-granuliferous with sometimes a few setae. Leaflets 7–9, sometimes 5, elliptical to oval or obovate, usually obtuse, sparingly short-appressed-pubescent on both surfaces, 14–31 mm. long by 7–16 mm. wide. Teeth simple or bicuspid, ovate, acute and often fine. Leaflets of lowest leaves sometimes with gland-tipped teeth. Teeth 8–21 on each side, average 16. Flowers solitary or 2–5 together, terminally on the season's turions or on slender lateral branches. In poor soil aerial shoots 5–10 cm. high bear a terminal blossom the first season. Inflorescence soon over-topped by leafy laterals, which in turn may produce flowers terminally later in the season. Pedicels 1–2.5 cm. long, slender and smooth. Hypanthium smooth, sub-globose, sometimes with a short neck, 8–10 mm. in diameter in fruit. Sepals lanceolate, 2 cm. long including the caudate appendage, pubescent on the back, sometimes with a few hispid glands near the margin and 1–3 weak pinnae, after anthesis reflexed and persistent or tardily deciduous. Petals 2 cm. long, thulite pink fading to rosaline pink. Stamens 110–120. Achenes basal-parietal.—ILLINOIS: residual prairie in Bliss Woods, Kane Co., July 30, 1925, *C. O. & E. W. Erlanson* no. 1533 (TYPE in Herb. and (living) Bot. Gard. Univ. Mich., no. 8320). INDIANA: on the Indian Prairie, west of Goldsmith, Tipton Co., Sept. 17, 1923, *C. C. Deam* no. 39,819. MISSOURI: dry banks, Wellington, May 29, 1927, *B. F. Bush*, nos. 11336 and 11337. MINNESOTA: roadside, Little Falls, Sept. 16, 1914, *L. R. Moyer* (Herb. Univ. Minn.).

Rosa relictata resembles a weak *R. suffulta*; it is semi-herbaceous, the two-year-old wood being often semi-procumbent. It differs from *R. suffulta* in the narrow stipules, small fruit with reflexed and semi-deciduous sepals, in which characteristics it resembles *R. carolina* L. Mr. Bush placed his specimens from Wellington in *R. Bushii*, which is apparently intermediate between *R. suffulta* and *R. carolina*. Plants sent by Bush from the type clump of *R. Bushii* do not fit Rydberg's description.

R. relictata begins to flower earlier than *R. suffulta*, just after *R. blanda* and continues to flower throughout the summer.

ROSA **Housei** sp. nov. Caules erecti setosi tenues armati, 3–6 dm. alti ramulis inermibus. Stipulae adnatae subtus pubescentes, 1–3 mm. latae. Foliola 5–7, plerumque 7, parva, late ovata vel obovata, obtusa, 1–3 cm. longa, plerumque 2 cm., superne glabra, subtus in nervis sparsim pubescentia, simpliciter vel dupliciter serrata, serrulis utrinque 8–9. Flores solitarii vel gemini. Pedicelli glabri vel sparsim glanduloso-hispidi. Hypanthium subglobosum

glanduloso-hispidum, maturitate 12–13 mm. diametro. Sepala caudato-appendiculata, raro pinnatifida, 15–18 mm. longa, externe glanduloso-hispida, sub anthesin reflexa persistentia. Achaenia basilaria et parietaria.

Stems erect, 3–6 dm. tall, armed with weak bristles, sometimes with glandular bristles intermingled, branches nearly unarmed. Stipules adnate, densely pubescent on the back, 1–3 mm. wide, the margins entire or glandular-dentate. Petiole and rhachis densely pubescent, unarmed. Leaflets 5–9, mostly 7, small, broadly ovate to obovate, often obtuse at both ends, 1 to 3 cm. long, most of them about 2 cm., usually more than one-half as broad as long; glabrous above and sparingly pubescent on the veins beneath. Serrations simple to bicuspid, ovate, ciliate, 6–12 on each side, averaging 8–9. Inflorescence one- or two-flowered, on lateral branches 5–10 cm. long. Pedicels 10–20 mm. long, smooth or sparingly glandular-hispid, especially at the top. Hypanthium subglobose, covered with glandular-hispid hairs, 12–13 mm. in diameter in fruit. Sepals lanceolate, caudate-attenuate, 15–18 mm. long, 4 mm. wide at the base, entire or with an occasional pinna, glandular-hispid on the back; persistent and spreading after anthesis. Petals obcordate, deep rose-red or rose-pink, 20–23 mm. long. Stamens about 100. Achenes chiefly basal.—NEW YORK: shore of Moxham Pond near North Creek, Warren Co., July 13, 1927, *H. D. House* no. 14900 (TYPE in herbarium of N. Y. State Museum) also same place and date, *H. D. House* no. 14901.

This plant, in habit and foliage, is similar to some robust forms of *Rosa suffulta*, and the ends of the branches are slightly cut back by winter. It is easily distinguished from that species by its fewer leaflets, the regularly glandular-hispid hypanthium, and usually 1-flowered inflorescence, at least on the two-year-old wood. Under favorable conditions this species would be expected to produce flowers on the season's turions and these would probably be in small corymbs. No turions are among Dr. House's material.

R. CAROLINA L. var. **sabulosa** var. nov. Caules graciles debiles in anno secundo semi-prostrati, aculeis rectis tenuibus fragilibus infrastipularibus armati, vel inermi. Foliola 5–7, raro 9, lanceolato-elliptica vel ovata, acuta, supra atro-viridia glabra, subtus pallida in nervo medio sparsim pubescentia, 5–30 mm. longa, plerumque vix 20 mm. longa. Flores solitarii vel corymbosi; corymbis paucifloris. Pedicelli hypanthiumque glabri.

Stems slender, weak, 15–30 mm. long, semi-prostrate or trailing after the first year, armed with weak paired infra-stipular prickles, or unarmed, occasionally with weak scattered bristles. Stipules adnate, narrow, glabrous or almost so. Leaflets firm, 5–7, rarely 9, lance-elliptic to ovate, acute at both ends, dark green and glabrous

above, paler with a few hairs on the midrib beneath, 5–30 mm. long, usually less than one-half as wide as long. The leaflets are usually less than 2 cm. long and on the dunes the plants sometimes have uniformly minute leaflets, firm, dark green and numerous, giving a very striking effect. Teeth simple, acute, 7–15 on each side, average 10–11. Flowers solitary to three together; small corymbs are produced terminally on the year's turions. Pedicels 1–2 cm. long, smooth and glabrous. Hypanthium smooth, subglobose, 8–12 mm. in diameter in fruit. Sepals lanceolate, 7–10 mm. long with caudate appendages 5–7 mm. long, occasionally with 1 or 2 small pinnae; after anthesis reflexed and deciduous. Petals 20–23 mm. long. Stamens about 110. Achenes mostly basal.—INDIANA: low dune, Pine (now Clark) Street, Gary, Lake Co., August 11, 1923, *C. C. Deam*, no. 39461 (TYPE in Herb. and (living) Bot. Gard. Univ. Mich. no. 4002); low dune South of Pine St. (now two squares south of Fifth Ave., on Clark St., Gary), Lake Co., September 23, 1923, *C. C. Deam*, no. 39760.

This variety flowers with *R. carolina*, from which it differs in the low and somewhat trailing habit, in the uniformly small leaflets on the old wood and in having the hypanthium and pedicels free from hispid glands.

R. CAROLINA L. var. **litoralis** var. nov. Caules humiles, ramosi, virides, debiles, plus minusve setosi vel raro aculeati, aculeis rectis brevibus infrastipularibus. Foliola 5–7, raro 9, elliptica vel ovata vel late oblanceolata, 10–40 mm. longa. Flores corymbosi, valde conferti. Pedicelli breves, 5–12 mm. longi, glabri. Hypanthium glabrum vel sparsim glanduloso-hispidum, maturitate globosum vel pomiforme, parvum, 6–10 mm. diametro; ostium 3 mm. diametro sub anthesin dilatatum. Achaenia basilaria, maturitate ex hypanthii ostio subexserta.

Stems low, 2–4.5 dm. high, at first erect but becoming semi-procumbent the second year. Plants spreading by underground stems and forming a dense low tangled mass; stems green, armed with weak scattered bristles, the branches sparingly bristly with an occasional pair of short straight infrastipular prickles. Stipules adnate, 1–3 mm. broad, glabrous or slightly pubescent, the margins entire and ciliate or gland-dentate. Leaflets 5–7, occasionally 9, elliptical to ovate or broadly oblanceolate, dull cress-green above, glabrous except for a few hairs on the midrib beneath and on the margins, 10–40 mm. long. Teeth simple or bicuspid, ovate, acute and rather fine, 12–25 on each side, average 16. Inflorescence usually a small crowded corymb of 3–12 flowers, borne terminally on the vigorous laterals and annual turions, solitary flowers occasional on the old wood. After flowering the leafy laterals from immediately below the inflorescence soon over-top it; these may produce more flowers later in the season. Peduncles short, stout, 5–12 mm. long, smooth

or sparsely hispid-glandular at the top. Hypanthium smooth or with a few glandular-hispid hairs, small and globose to depressed-globose, in fruit 6–10 mm. in diameter; the orifice nearly 3 mm. in diameter, becoming noticeably wider after anthesis. Sepals caudate-acuminate, 1.5 cm. long, entire or with 2–3 small pinnae, glandular-hispid on the back, erect after anthesis, later reflexed, early deciduous. Petals pale rose-pink, 15–20 mm. long. Stamens about 100. Achenes basal, becoming squeezed up into, and half extruding from, the wide orifice of the hips. Styles distinct, exerted, 2–3 mm. long.—ILLINOIS: campus of Northwestern University, Evanston, October 3, 1922, *A. H. W. Povah* (TYPE in Herb. and (living) Bot. Gard. Univ. Mich., no. 2654).

This variety is characterized by the weak, much-branched, green bristly stems, short peduncles and small nearly smooth hypanthium with large orifice.

ROSA Deamii sp. nov. Caules 3–5 dm. alti, rufescentes, recurvi, plus minusve setosi, aculeati; aculeis robustis rectis vel flexis infrastipularibus. Foliola 5–9, plerumque 7, 1–5 cm. longa, ovata vel obovata, atroviridia, superne lucida subrugosaque subtus pallida pubescentia vel glabra, serrulis argutis utrinque 7–20. Flores amplii solitarii vel corymbosi. Pedicelli valde glanduloso-hispidi. Hypanthium valde glanduloso-hispidum, maturitate 10–18 mm. diametro. Sepala externe glanduloso-hispida, sub anthesin divergentia vel reflexa, tarde caduca vel persistentia. Achaenia ad basin adnata.

Plants low; stems 3–5 dm. long, after the first season becoming recurved or semi-procumbent. Turions stout and erect, leafy or bearing terminal corymbs. Stems armed with well-developed, terete, paired infrastipular prickles, 5–10 mm. long, varying from straight to curved; weak scattered bristles are sometimes present; old wood reddish brown. Stipules adnate, 15–20 mm. long, 1–3 mm. wide, more or less villous on the back and sometimes glandular-dentate. Petiole and rhachis villous, often setose and gland-hispid on the young shoots. Leaflets mostly 7, sometimes 5 or 9, 1–5 cm. long, ovate to obovate, usually less than twice as long as wide, dark shining green and somewhat rugose above, paler and slightly pubescent, at least on the veins, beneath. Teeth simple, coarse, ovate, 7–20 on each side, average 13–14. Flowers solitary or 3 to 8 in a corymb; on the old wood solitary or two together, in small corymbs on the strong lateral branches of the two-year-old shoots and terminally on the turions. Pedicels stout, 5–20 mm. long, with many long glandular-hispid hairs. Hypanthium subglobose to depressed globose, thickly beset with coarse glandular-hispid hairs 1 mm. long, in fruit 10–18 mm. in diameter; orifice 3 mm. in diameter; disc 1 mm. wide. Sepals lanceolate, caudate-appendiculate, 2–2.5 cm. long, 4–5 mm. wide at the base, densely glandular-hispid on the back, entire or with 1–3 pinnae, after anthesis spreading or reflexed, tardily deciduous

or persistent. Petals spinel-pink, 25–28 mm. long, almost entire. Stamens 105–125, with bright yellow filaments. Stigmas and styles free, forming a cushion 3 mm. high, tinged with pink. Achenes mostly basal, 20 to 25, 4–6 mm. long.—INDIANA: 1½ miles west of Goldsmith, along the Nickle Plate Railway, Tipton Co., September, 1923, *C. C. Deam*, no. 39818 (TYPE in Herb. and (living) Bot. Gard. Univ. Mich., no. 3779).

This handsome rose is related to *R. Lyoni* Pursh and *R. obovata* Raf., and like them is perhaps only a variety of *R. carolina*. It is characterized by the recurved stems, long deflexed prickles, thick shining dark green foliage with coarse serrations; large flowers and hips. All parts are coarse and well-developed. Seeds and plants were collected by Mr. Deam in 1923 and the seedlings raised at Ann Arbor are true to the parent type. In naming this rose for the indefatigable student of the Indiana flora, it is a pleasure to acknowledge the numerous obligations under which Mr. Deam has placed the Botanical Garden of the University of Michigan.

UNIVERSITY OF MICHIGAN.

LEMNA TRISULCA AT ISLE AU HAUT, MAINE.—*Utricularia gemmiscapa* Benj., itself accidentally acquired adhering to another water plant, bore fragments just sufficient for identification of *Lemna trisulca* L. I have affixed the date 26 Aug. 1927, though the real discovery should be credited to Professor Fernald, who first saw the *Lemna* in my herbarium. His comment is “known in Maine only from Houlton, Aroostook County and from Rockport” as recorded by C. A. E. Long, RHODORA xxiii. 199 (1921).—NATHANIEL T. KIDDER, Milton, Massachusetts.

A NEW OXYTROPIS FROM THE GASPÉ COAST

M. L. FERNALD and S. L. KELSEY

IN August, 1923, while waiting at Mont Louis, Gaspé County, Quebec, for an over-due steamer the senior author with Mr. Lyman B. Smith drove west toward the mouth of Rivière à Pierre, where the steep cliffs and slaty talus of Mt. St. Pierre, as seen from the Gulf of St. Lawrence, suggested unique botanizing. The time was